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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,764	03/22/2004	Walter E. Butterfield	3073-02	2439

37101 7590 03/03/2006

LAW OFFICE OF MICHAEL P. EDDY  
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EXAMINER

VALENTI, ANDREA M

ART UNIT	PAPER NUMBER
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3643

DATE MAILED: 03/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/806,764

Applicant(s)

BUTTERFIELD ET AL.

Examiner

Andrea M. Valenti

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: element #36 from paragraph [0030] of the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Claims 1 and 7 are objected to because of the following informalities:

Claim 1, line 2, "a vertically positioned source of light;" should be --at least one or more vertically positioned sources of light;--

Claim 1, line 7, "sources of light, each of" should be --sources of light; each of--

Claim 1, line 8, "container portion with a base and a sides, an inflow/outflow gate accommodated in the base of said container portion, an height adjustable overflow gate accommodated within said container portion; and drainage plumbing connecting said container portion with said reservoir;" should be --with a base and a sides, an

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inflow/outflow gate accommodated in the base of said chamber portion, an height adjustable overflow gate accommodated within said chamber portion; and drainage plumbing connecting said chamber portion with said reservoir;--

Claim 7, line 7, "deactivating said pump when said nutrient" should be –  
deactivating said pump, said nutrient--

Claim 7, similar changes that were identified for claim 1 should be made in claim 7.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,053,011 to Silverman in view of Japanese Patent JP 05007437A to Yoshiaki et al, Japanese Patent JP 06038643 A to Iwamura and U.S. Patent No. 1,222,648 to Marks.

Regarding claims 1 and 7, Silvermann teaches a plant growth system and method comprising a reservoir (Silverman #20); a volume of liquid based nutrient composition; a plurality of independent growing chambers (Silvermann Fig. 3 #31) arranged in a planar array; each of the growing chambers comprising a base and sides,

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an inflow/outflow gate in the base (Silverman Fig. 6-10), each of the growing chambers (Silverman #31) **accommodates one** or more plant holding containers (Barfield is capable of accommodating a container within in element #10). Silverman teaches that the liquid can drain out the same gate it came in from back to the reservoir (Silverman Col. 3 line 61-62)

Silverman teaches it is capable of supplying liquid to stacked containers at different levels (Silverman Fig. 12), but is silent on a vertically positioned source of light; a pump; a plurality of stacked independent growing chambers arranged in a planar array around one or more lights. However, Yoshiaki teaches it is well known to stack a plurality of planting chambers in a planar array around a light source (Yoshiaki Fig. 9 element 5 contains element 24 and 25 and Fig. 7 #1 and element A, light and plants) and that it is known that when plants are in a stacked configuration that the a pump is necessary to circulate the liquid (Yoshiaki Fig. 6 #18) thus wherein when the pump is activated the pump transports nutrient composition from the reservoir through the inflow/outflow gate into the growing chambers. Yoshiaki is cited merely to teach that it is old and well-known to place plant containers in a vertical array for efficient use of space are a light and to pump the fluids to the plants and to recollect the liquid in the reservoir. It would have been obvious to one of ordinary skill in the art to modify the teachings of Silverman with the teachings of Yoshiaki at the time of the invention for the known advantage of efficient use of space in urban environments as taught by Yoshiaki (Yoshiaki English abstract) and to provide a light source for improved plant development depending on the particular plant variety. Silverman as modified by Yoshiaki teaches

when the pump is deactivated, the nutrient composition remaining in each growing chamber returns to the reservoir via the inflow/outflow gate (Silverman Fig. 6 #41).

Silverman as modified is silent on a height adjustable overflow gate, and drainage plumbing connecting with the reservoir, so that the growing chambers becomes flooded to the level of the overflow gate, the overflowing nutrient composition is returned to the reservoir via the drainage plumbing. However, Iwamura teaches a plant cultivation system where the chambers each contain an overflow gate that is plumbed back to the reservoir (Iwamura Fig. 1 #51). It would have been obvious to one of ordinary skill in the art to further modify the teachings of Silverman with the teachings of Iwamura at the time of the invention for the advantage of ensuring that the water level in the chamber is maintained at a desired level for optimum plant growth, to prevent overflowing of the chamber, an un-manned way of maintaining the system.

Silverman as modified by Iwamura teaches the overflow gate, but is silent on it being adjustable. However, Marks teaches it is known to adjust the overflow height of the overflow gate (Marks Fig. 2 #16, 17, 18 and page 1 lines 89-104). It would have been obvious to one of ordinary skill in the art to further modify the teachings of Silverman with the teachings of Marks at the time of the invention for the advantage of meeting different plant varieties watering level needs [*In re Stevens*, 212 F.2d 197, 198, 101 USPQ 284, 285 (CCPA 1954)].

Regarding Claims 2 and 8, Silverman as modified is silent on a plurality of lights. However, it would have been obvious to one of ordinary skill in the art to further modify the teachings of Silverman at the time of the invention since the modification is merely

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the duplication of a known element for a multiple effect to provide more light or heat to meet the needs of different plant varieties (e.g. tropical plants) and does not present a patentably distinct limitation [*In re Harza*, 274 F.2d 669, 671, 124 USPQ 378, 380 (CCPA 1960)].

Regarding Claims 3 and 9, Silverman as modified is silent on the growing chamber is primarily polyethylene material. However, it would have been obvious to one of ordinary skill in the art to further modify the teachings of Silverman at the time of the invention since the modification is merely an engineering design choice involving the selection of a known material for intended use [Leshin 125 USPQ 416].

Regarding Claims 4 and 10, Silverman as modified teaches a plurality of inflow/outflow gates (Silverman Fig. 3 #41).

Regarding Claims 5 and 11, Silverman as modified teaches a plurality of overflow gates (Iwamura Fig. 1 #51).

Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,053,011 to Silverman in view of Japanese Patent JP 05007437A to Yoshiaki et al, Japanese Patent JP 06038643 A to Iwamura and U.S. Patent No. 1,222,648 to Marks. as applied to claims 1 and 7 above, and further in view of U.S. Patent No. 4,006,559 to Carylton.

Regarding Claims 6 and 12, Silverman as modified is silent on the pump is activated and deactivated by a timer. However, Carylton teaches an irrigation system with a pump and timer (Carylton Fig. 1 #82). It would have been obvious to one of

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ordinary skill in the art to further modify the teachings of Silverman with the teachings of Carylton at the time of the invention for the labor efficient advantage of the system being self-operating.

### ***Response to Arguments***

Applicant's arguments, see pages 3 and 4, filed 27 December 2005, with respect to the rejection(s) of claim(s) 1-5 and 7-12 under 35 U.S.C 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent No. 3,053,011 to Silverman in view of Japanese Patent JP 05007437A to Yoshiaki et al, Japanese Patent JP 06038643 A to Iwamura and U.S. Patent No. 1,222,648 to Marks. as applied to claims 1 and 7 above, and further in view of U.S. Patent No. 4,006,559 to Carylton.

Examiner recommends that applicant positively claim the containers. For example, instead of claim 1, line 12, applicant should replace it with ---one or more plant containers seated in said growing chambers--

Examiner recommends that some of the structure features of the stacked configuration found in the beginning sentences of paragraph [0026] of the specification be incorporated into the independent claims.

Examiner suggests that applicant insert the word "only" before "returns" in claim 1 line 21.

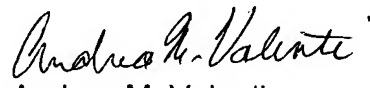


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrea M. Valenti whose telephone number is 571-272-6895. The examiner can normally be reached on 7:00am-5:30pm M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 571-272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Andrea M. Valenti  
Patent Examiner  
Art Unit 3643

28 February 2006